

- 87 -

ABSTRACT

ION DETECTOR

5       An ion detector for a mass spectrometer is  
disclosed comprising a microchannel plate 8 which  
receives ions 12 at an input surface and releases  
electrons 16 from an output surface. A detecting device  
is arranged to receive at least some of the electrons 16  
emitted from the microchannel plate 8. The detecting  
10   device receives electrons 16 on a first portion of the  
detecting device at a first time  $t_1$  and receives  
electrons 16 on a second different portion of the  
detector at a second later time  $t_2$ . Time-varying  
electric and/or magnetic fields are applied between the  
15   microchannel plate 8 and the detecting device to guide  
electrons 16 emitted from the microchannel plate onto  
different regions of the detecting device in a time  
varying manner.